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**Diploma in Electrical and Mechanical
Engineering**

Term-End Examination

December, 2011

BCE-025 : ELEMENTARY CIVIL ENGINEERING

Time : 2 hours

Maximum Marks : 70

Note : Question no. 1 is *compulsory*. Attempt *any four* more questions out of question nos. 2 to 8. All questions *carry equal marks*. Explain your answers with the help of neat and labelled sketches.

1. Choose the correct alternatives : **7x2=14**

(a) In case of perfectly saturated soil, the voids are completely filled with :

(i) air

(ii) water

(iii) air and water both.

(iv) soil solids

(b) Distance between the inner faces of the rails in a narrow gauge railway track is :

(i) 1.0 m (ii) 0.765 m

(iii) 1.565 m (iv) 0.50 m

- (c) One bag of cement is :
 - (i) 50 litres (ii) 25 litres
 - (iii) 35 litres (iv) 60 litres
- (d) The horizontal dividing member in a window or door frame is :
 - (i) sill (ii) transom
 - (iii) soffit (iv) none of the above
- (e) A paved area for parking of aircrafts and loading and unloading of passengers and cargo is known as :
 - (i) runway (ii) taxiway
 - (iii) apron (iv) none of the above
- (f) The connections used in steel structure is :
 - (i) riveted (ii) welded
 - (iii) bolted (iv) all the above
- (g) Hand compaction can be done with :
 - (i) rodding (ii) ramming
 - (iii) tamping (iv) all the above

- 2. (a) What are the applications of civil engineering to allied fields ? 7
- (b) Why soil is called as three phase system ? 7
Explain with diagram.
- 3. (a) How width and depth of shallow foundation can be decided ? 7
- (b) Compare English bond and Flemish bond with neat sketches. 7

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| 4. | (a) | What are the different methods of damp proof treatment ? Explain any one in detail. | 7 |
| | (b) | Enlist properties of concrete in plastic stage. Explain any one. | 7 |
| 5. | (a) | Explain bulking of sand with sketches. | 7 |
| | (b) | Discuss riveted connections with sketches. | 7 |
| 6. | (a) | What are the various features to be considered while locating a door ? | 7 |
| | (b) | What are sky lights and why are they provided ? | 7 |
| 7. | (a) | What are the different types of plastering ? Explain any one. | 7 |
| | (b) | Discuss the points to be considered while selecting location for an airport. | 7 |
| 8. | (a) | Discuss types of flooring with sketches. | 7 |
| | (b) | Explain the various components of an airport. | 7 |
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